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10/660,701	09/12/2003	Charles W. Dunmire	87225.1819	7675

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EXAMINER

RIVELL, JOHN A

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/660,701

Applicant(s)

DUNMIRE ET AL.

Examiner

John Rivell

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 9/12/03 (app), 1/20/04 (IDS).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 10-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09122004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

By preliminary amendment filed concurrently with the application, claims 2-9 have been canceled. New claims 10-23 have been added. Thus claims 1 and 10-23 are pending.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. §102 (b) as being anticipated by McHugh.

The patent to McHugh clearly discloses, in figure 7 for example, “a backflow preventor assembly comprising; first (150) and second (70) backflow preventor valves; a housing (read as the body encompassing first valve 150, the “J” pipe 86 and the body encompassing the second valve 70) encompassing said first and second backflow preventor valves, such that both of said valves automatically close if flow through said backflow assembly drops below a predetermined value, said housing including an inlet opening (read at the downwardly facing bolt circle type flange connection attached to valve 150) defining an inlet flow direction, an outlet (read at the upwardly facing bolt circle type flange leading from valve 70) defining an outlet flow direction and a conduit (read at the flow confining body including the outlet opening of valve body 150 to the outlet opening of valve body 70) providing fluid communication between said first and second backflow preventor valves wherein at least a first portion of said conduit (such as from the bolt circle coupling flange at the inlet to “J” pipe 86 to the outlet of valve 70) is movable (by disconnecting the bolt circle type flange coupling and “moving” one

Art Unit: 3753

“portion” relative to the other “portion”) with respect to a second portion of said conduit (read at the body of valve 150 from the internal valve outlet to the body “opening” within the bolt circle type coupling flange attached to body 150 at its outlet) to permit a change in said outflow direction (from valve 70) with respect to said inflow direction (into valve 150)” as claimed.

Claims 10, 11, 13, 15 and 23 are rejected under 35 U.S.C. §102 (b) as being anticipated by Griswold (UK 1,490,553 cited herein).

In the document to Griswold (UK '553), claim 11, as dependent on claim 9/4/etc., recites an embodiment of the invention in which the embodiment of check valve shown in figure 2 is duplicated and connected in serial fluid communication such that the outlet of a first valve is connected to the inlet of the second valve.

As such, the embodiment of the invention envisioned by claim 11/9/4/etc of Griswold (UK '553) is read as “a backflow preventor apparatus for connection to parallel, oppositely-flowing inlet and outlet conduits (the “inlet conduit” feeding the first valve and would be threaded at 26a and an “outlet conduit” leading from the outlet 27a of the second valve), comprising: a first housing (surrounding the first valve) having a first valve (10) and connected to the inlet conduit via a first flange (threaded flange 26a), said first valve mounted in said first housing so that it is positioned generally parallel to the inlet conduit, said first valve movable between an opened position and a closed position, and a second housing (surrounding the second valve) connected to said first housing and the fluid outlet via a second flange (at threaded flange 27a of the second valve), having a second valve (10) positioned at an angle approximately 90 degrees to

Art Unit: 3753

the inlet (conduit), said second valve movable between an opened position and a closed position, wherein the flow of fluid has an average streamline path between the inlet conduit and the outlet conduit, wherein the sum of changes in flow direction of said average streamline path is approximately 180 degrees" as recited in claim 10.

Regarding claim 11, in the embodiment of claim 11/9/4/etc. of Griswold (UK '553) "said first valve and said second valve are positioned at 90 degree angle to one another" as recited because the inlet 26a of the second valve in series is connected to the outlet 27a of the first valve in the series.

Regarding claim 13, the embodiment of claim 11/9/4/etc. of Griswold (UK '553) discloses "a backflow preventor apparatus for connection to parallel, oppositely-flowing inlet and outlet conduits (the "inlet conduit" feeding the first valve and would be threaded at 26a and an "outlet conduit" leading from the outlet 27a of the second valve), comprising: a first housing (surrounding the first valve) having a first valve (10) and connected to the inlet conduit via a first flange (threaded flange 26a), said first valve mounted in said first housing so that it is positioned generally parallel to the inlet conduit, said first valve movable between an opened position and a closed position; and a second housing (surrounding the second valve) connected to said first housing and the fluid outlet via a second flange (threaded flange 27a of the second valve), having a second valve (10) positioned at an angle approximately 90 degrees to the inlet (conduit), said second valve movable between an opened position and a closed position; and a conduit (connecting the threaded outlet flange 27a of the first valve to the threaded inlet flange 26a of the second valve), extending between and coupled to

Art Unit: 3753

said first housing and said second housing, wherein the flow of fluid has an average streamline path between the inlet conduit and the outlet conduit, wherein the sum of changes in flow direction of said average streamline path is approximately 180 degrees” as recited.

Regarding claim 15, in the embodiment of claim 11/9/4/etc. of Griswold (UK '553) “said first valve and said second valve are positioned at 90 degree angle to one another” as recited.

Regarding claim 23, the embodiment of claim 11/9/4/etc. of Griswold (UK '553) discloses “a backflow preventor apparatus for connection to parallel, oppositely-flowing inlet and outlet conduits (the “inlet conduit” feeding the first valve and would be threaded at 26a and an “outlet conduit” leading from the outlet 27a of the second valve) each having longitudinal axes, comprising: a housing (read as the entirety of the “housing” of the first valve and the second valve and any connecting conduit connecting the outlet 27a of the first valve to the inlet 26a of the second valve” configured to accommodate first and second valves, and to receive fluid flow from said inlet conduit (connected at flange 26a of the first valve), a first valve (10) mounted in said housing having a seatable valve disc (at 13, 20) having an edge, moveable between a closed configuration preventing flow and an open configuration permitting flow through a first inlet port (26a of the first valve) in a first direction, said first valve mounted to extend generally parallel to the longitudinal axis of the inlet conduit; and a second valve (second valve 10) mounted in said housing having a seatable valve disc (second valve 10 valve head at 13, 20) having an edge, movable between a closed configuration

Art Unit: 3753

preventing flow and an open configuration permitting flow through a second inlet port (inlet port 26a of the second valve connected in series) in a second direction, said second valve mounted at angle approximately 90 degrees to the longitudinal axis of the outlet conduit, said axis of mounting of said second valve being substantially perpendicular to said axis of mounting of said first valve; said fluid flow having an average streamline path between said inlet and said outlet conduit, wherein the sum of changes in flow direction of said average streamline path is not substantially greater than about 180 degrees, further comprising a first flange for coupling to said inlet conduit and a second flange for coupling to said outlet conduit" as recited.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Griswold (UK '553) in view of Griswold et al. (US 3,173,439 cited herein).

The Document to Griswold (UK '553), in the embodiment as recited in claims 11/9/4/etc. therein discloses all the claimed features with the exception of having

“flanges (that) include holes for accommodating bolts for coupling to the inlet and outlet conduits” at threaded flanges 26a, 27a.

The patent to Griswold et al. (US '439) discloses that it is known in the art to employ bolt circle type flange elements connecting a first backflow preventor valve 1 to a second backflow preventor valve 2 at bolts 3 for the purpose of permitting removal of either of the valve elements 1 or 2 from the pipe line without disturbing the remainder of the pipe line (further considering the inlet bolt circle type flange coupling at bolts 5 connecting an inlet conduit to the first valve 1 and the outlet bolt circle type coupling at bolts 9 connecting the outlet of the second valve 2 to the outlet conduit).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Griswold (UK '553) bolt circle type couplings connecting the first and second backflow preventor check valves, in place of the threaded couplings at 26a, 27a, for the purpose of permitting removal of either of the first or second valve elements from the pipe line without disturbing the remainder of the pipe line as recognized by Griswold et al. (US '439).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Griswold (UK '553) in view of Cornwall (US 213,394 cited by applicant).

The document to Griswold (UK '553), in the embodiment of invention recited in claims 11/9/4/etc. discloses all the claimed features with the exception of having “at least a portion of said conduit (connecting the first check valve to the second check valve)is downward sloping”.

The patent to Cornwall discloses that it is known in the art to employ a downwardly sloping conduit section A between an upstream check valve B and a downstream check valve B' for the purpose of preventing “the accumulation of solid matter” (page 1, right column, lines 2-3).



It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the embodiment of invention recited in claims 11/9/4/etc. of Griswold (UK '553) a downwardly sloping conduit connecting the first check valve to the second check valve for the purpose of preventing the accumulation of solid matter as recognized by Cornwall.

Claims 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the device envisioned by claims 11/9/4/etc. of Griswold (UK '553) in view of Griswold (UK '553) figure 7.

The device envisioned by the embodiment recited in claims 11/9/4/etc. of Griswold (UK '553) discloses "a backflow preventor apparatus for connection to parallel, oppositely-flowing inlet and outlet conduits (the "inlet conduit" feeding the first valve and would be threaded at 26a and an "outlet conduit" leading from the outlet 27a of the second valve), comprising: a first housing (surrounding the first valve) having a first valve (10) and connected to the inlet conduit, said first valve mounted in said first housing so that it is positioned generally parallel to the inlet conduit, said first valve movable between an opened position and a closed position, a second housing (surrounding the second valve) connected to the fluid outlet having a second valve (10) positioned at an angle approximately 90 degrees to the inlet (conduit), said second valve movable between an opened position and a closed position;... wherein the flow of fluid has an average streamline path between the inlet conduit and the outlet conduit, wherein the sum of changes in flow direction of said average streamline path is approximately 180 degrees" as recited in claim 16.

Thus the embodiment of claims 11/9/4/etc. of Griswold (UK '553) discloses all the claimed features with the exception of having "a third valve in fluid communication with said first housing that controls the flow of fluid into said first housing".

The embodiment of the invention disclosed in figure 7 of Griswold (UK '553) discloses that it is known in the art to employ upstream (37) and downstream (40) shutoff valves connected upstream and downstream of a double backflow preventor valve 33 and connected to the backflow preventor valve 33 by standard union couplings 38, 39 for the purpose of closing fluid communication upstream and downstream of the backflow preventor valve 33 to permit removal of the backflow preventor valve 33 without disturbing there remainder of the fluid pipe line.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in the embodiment of invention recited in claim 11/9/4/etc. of Griswold (UK '553) an upstream shutoff valve upstream of the first check valve and a downstream shutoff valve downstream of the second check valve for the purpose of closing fluid communication upstream and downstream of the backflow preventor valve to permit removal of the backflow preventor valve without disturbing there remainder of the fluid pipe line as recognized by the embodiment of invention disclosed in figure 7 of Griswold (UK '553).

Regarding claim 17, in the embodiment of the invention as recited in claim 11/9/4/etc. of Griswold (UK '553) "said first valve and said second valve are positioned at 90 degree angle to one another" as recited.

Regarding claim 18, in the embodiment envisioned by the combination above, "said first valve (i.e. the first check valve of claim 11/9/4/etc. would be) positioned at a higher elevation than said third valve" e.g. the "third valve" being the upstream shutoff valve 37 of figure 7 connected at the inlet 26a.

Regarding claim 19, the embodiment envisioned by the combination above, including the standard union couplings of figure 7, includes "a first handle for operating said third valve (shutoff valve 37), said first handle extending horizontally in a direction

perpendicular to a line connecting the inlet and outlet conduits" by reason that the union type coupling will permit the direction of the handle of the shutoff valve 37 to extend in any direction desired including one which is "in a direction perpendicular to a line connecting the inlet and outlet conduits" as recited.

Regarding claim 20, the embodiment envisioned by the combination above will include "a fourth valve (40) in fluid communication with said second housing (the second check valve of the embodiment of claim 11/9/4/etc.) that controls the flow of fluid out of said second housing" as recited.

Regarding claim 21 in the embodiment envisioned by the combination above, "said second valve (i.e. the "second valve" of the embodiment of claim 11/9/4/etc. will be) positioned at a higher elevation than said fourth valve" i.e. the downstream shutoff valve 40 as recited

Regarding claim 22, the embodiment envisioned by the combination above, including the standard union couplings of figure 7, includes "a second handle for operating said fourth valve (shutoff valve 40), said second handle extending horizontally in a direction perpendicular to a line connecting the inlet and outlet conduits" by reason that the union type coupling will permit the direction of the handle of the shutoff valve 40 to extend in any direction desired including one which is "in a direction perpendicular to a line connecting the inlet and outlet conduits" as recited.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

Art Unit: 3753

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (703) 308-1272. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**John Rivell**  
**Primary Examiner**  
**Art Unit 3753**

j.r.